

QA: QA

**U.S. DEPARTMENT OF ENERGY
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
OFFICE OF QUALITY ASSURANCE**

AUDIT REPORT LBNL-ARC-00-15

OF THE

**CIVILIAN RADIOACTIVE WASTE MANAGEMENT SYSTEM
MANAGEMENT AND OPERATING CONTRACTOR**

AT

LAWRENCE BERKELEY NATIONAL LABORATORIES

BERKELEY, CALIFORNIA

SEPTEMBER 11 – 14, 2000

Prepared by: _____

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Office of Quality Assurance/
Quality Assurance Technical
Support Services**

Date: _____

Approved by: _____

**Robert W. Clark, Director
Office of Quality Assurance**

Date: _____

1.0 EXECUTIVE SUMMARY

As a result of Quality Assurance (QA) Audit LBNL-ARC-00-15, the audit team determined that the Civilian Radioactive Waste Management System Management and Operating Contractor (CRWMS M&O) at Lawrence Berkeley National Laboratory (LBNL) is satisfactorily implementing the Office of Civilian Radioactive Waste Management (OCRWM) QA Program in accordance with the U.S. Department of Energy (DOE) OCRWM *Quality Assurance Requirements and Description* (QARD), DOE/RW-0333P, Revision 10, and LBNL implementing procedures.

QA Program elements 1.0, 2.0, 5.0, 6.0, 12.0, 15.0, 16.0, 17.0, and Supplements I, II, III, V, and Appendix C were determined to be effectively implemented based on the activities evaluated during the audit. Currently elements 3.0, 4.0, 7.0, 8.0, 9.0, 10.0, 11.0, 13.0, 14.0, 18.0, Supplement IV, and Appendices A and B are not implemented by LBNL.

The audit resulted in no conditions adverse to quality being identified. In addition, there were no recommendations or adverse conditions identified that required correction during the audit.

The LBNL personnel supporting the CRWMS M&O program are to be commended for their preparation and commitment put forth to ensure a successful audit. The attention to detail and involvement in the day-to-day activities associated with the implementation of the QA program was exhibited by each individual contacted during the audit. Coordination of activities and communication between personnel at LBNL is excellent.

The audit team reviewed the status of an LBNL deficiency document, Deficiency Report (DR) LBNL-00-D-116, and determined that the effectiveness of the corrective actions is adequate.

2.0 SCOPE

Auditors representing the DOE Office of Quality Assurance (OQA) conducted a compliance-based audit to evaluate LBNL's implementation of the OCRWM QA Program, as described in the QARD and implementing procedures at the LBNL's facilities. The audit team, through interviews with cognizant personnel, reviews of documentation, and evaluation of procedures, assessed implementation, adequacy, and effectiveness of LBNL's implementation of the QA program.

The audit team did not evaluate LBNL activities that support the Analysis & Model Reports (AMR) and Process Model Reports (PMR), which have been evaluated during performance-based audit M&O-ARP-00-04.

The audit team reviewed the status of open and closed OCRWM deficiency documents that may have been generated during previous OQA audits and surveillances to determine the effectiveness of in-process and completed corrective actions by LBNL.

In accordance with the approved audit plan, the following QA Program elements were evaluated:

QA PROGRAM ELEMENTS

1.0	Organization
2.0	QA Program
5.0	Implementing Documents
6.0	Document Control
12.0	Control of Measuring and Test Equipment
15.0	Nonconformances
16.0	Corrective Action
17.0	QA Records
Supplement I	Software (Limited to software identified during review of scientific notebooks.)
Supplement II	Sample Control
Supplement III	Scientific Investigation (Limited to review of new scientific notebooks.)
Supplement V	Control of the Electronic Management of Data (Limited to LBNL activities not related to AMR/PMR processes.)
Appendix C	Monitored Geologic Repository (Limited to Peer Review)

The following QA Program elements were not evaluated, since LBNL is not currently implementing them:

3.0	Design Control
4.0	Procurement Document Control
7.0	Control of Purchased Items and Services
8.0	Identification and Control of Items
9.0	Control of Special Processes
10.0	Inspection
11.0	Test Control
13.0	Handling, Storage, and Shipping
14.0	Inspection, Test, and Operating Status
18.0	Audits
Supplement IV	Field Surveying
Appendix A	High-Level Waste Form Production
Appendix B	Storage and Transportation

3.0 AUDIT TEAM

The following is a list of audit team members and their assigned areas of responsibility.

<u>Name/Title/Organization</u>	<u>QA Program Element</u>
Robert P. Hasson, Audit Team Leader, OQA/Quality Assurance Technical Support Services (QATSS)	1.0, 15.0, 16.0
Kristi A. Hodges, Auditor, OQA/QATSS	5.0, 6.0, Supplements V, and Appendix C
Patrick V. Auer, Auditor, OQA/QATSS	Supplement II and III
Marilyn A. Kavchak, Auditor, OQA/QATSS	2.0, 17.0, and Supplement I
Chet D. Wright, Auditor, OQA/QATSS	12.0

4.0 AUDIT TEAM MEETINGS

The pre-audit meeting was held at LBNL on September 11, 2000. Daily debriefings were held to apprise LBNL management and staff of the progress of the audit and any conditions adverse to quality. A post-audit meeting was held at LBNL on September 14, 2000. Personnel contacted during the audit, including those who attended the pre-audit and post-audit meetings, are listed in Attachment 1, "Personnel Contacted During the Audit."

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Effectiveness

The audit team concluded that, overall, LBNL's implementation of the QA Program is adequate and effective. The results for each QA Program element evaluated are contained in Attachment 2, "Summary Table of Audit Results."

5.2 Stop Work or Immediate Corrective Actions Taken

There were no Stop Work Orders or immediate corrective actions as a result of the audit.

5.3 QA Program Implementation

Attachment 2, "Summary Table of Audit Results," provides results for each QA Program element audited. The details of the audit, including the objective evidence reviewed, are documented in the audit checklists. The audit checklists are maintained as QA records.

5.4 Technical Audit Activities

There were no technical areas evaluated during this audit.

5.5 Summary of Conditions Adverse to Quality

There were no deficiency documents issued as a result of the audit.

5.5.1 Corrective Action Request (CAR)

None.

5.5.2 Deficiency Report (DR)

None.

5.5.3 Deficiencies Corrected During the Audit

None.

5.5.4 Follow-up of Previously Issued Deficiency Documents

DR LBNL-00-D-116

This DR was issued by LBNL during the CRWMS M&O Self Assessment SA-LBNL-2000-002, where a number of discrepancies were identified between the Technical Product MDL-NBS-HS-000001, Rev. 00, Drift Scale Coupled Processes, and the Data Tracking Number inputs into the Document Input and Reference System report. The interim corrective actions identified in the DR have been satisfactorily accomplished and appear to be effective at this time as no further conditions were identified during this audit.

6.0 RECOMMENDATIONS

None.

7.0 LIST OF ATTACHMENTS

Attachment 1: Personnel Contacted During the Audit
Attachment 2: Summary Table of Audit Results

ATTACHMENT I

Personnel Contacted During the Audit

Name	Organization/Title	Pre-Audit Meeting	Contacted During Audit	Post-Audit Meeting
Aden-Gleason, Nancy	LBNL EA Manager	X	X	X
Bodvarsson, G. S.	LBNL Program Manager	X	X	X
Cuzner, Marlene	LBNL Records Coordinator	X	X	X
Fissekidou, Vivi	LBNL Technical Data Coordinator	X	X	X
Harris, S. D.	OQA/QATSS, LBNL On-Site Representative		X	X
Hu, Qinhong	LBNL Staff Scientist		X	
Hedegaard, Randy	LBNL Software Configuration Coordinator	X	X	X
Kneafsey, T. J.	LBNL Staff Scientist		X	
Jackson, J. D.	LBNL Records Clerk	X	X	X
Managold, D. C.	LBNL EA Specialist	X	X	X
McClung, Ivelina	LBNL Measuring and Test Equipment Coordinator	X	X	X
Persoff, Peter	LBNL Program Coordinator (Acting)	X	X	X
Tsang, Yvonne	LBNL Senior Scientist		X	X
Valladao, Carol	LBNL Records Coordinator	X	X	X
Villavert, Maryann	LBNL Administrator	X		
Wang, Joe	LBNL Staff Scientist	X	X	X

LEGEND:

EA – Engineering Assurance
LBNL – Lawrence Berkeley National Laboratory
QATSS – Quality Assurance and Technical Support Services
OQA – Office of Quality Assurance

ATTACHMENT 2

Summary Table of Audit Results

QA Element/ Activities	Document Review	Checklist Pages	Deficiencies	Recommendation	Program Adequacy	Procedure Compliance	Over all
1.0	YMP-LBNL-QIP-1.0, R3, Mod 0	Pg. 1-2			SAT	SAT	SAT
2.0	AP-2.1Q, R1, ICN 0 AP-2.2Q, R0, ICN 0 AP-2.13Q, R0, ICN 4 AP-2.15Q, R0, ICN 1 AP-2.19Q, R0, ICN 0	Pg. 3 Pg. 4 Pgs. 5-6 Pg. 7 Pgs. 8-9			SAT SAT SAT SAT SAT	SAT SAT SAT SAT SAT	SAT
5.0	YMP-LBNL-QIP-5.2, R3, MOD 0 AP-5.1Q, R1, ICN 0 AP-5.2Q, R0, ICN 1	Pgs. 10-11 Pgs. 12-14 Pg. 15			SAT SAT SAT	SAT SAT N/I	SAT
6.0	AP-6.1Q, R5, ICN 0 YMP-LBNL-QIP-6.0, R2, MOD 1 YMP-LBNL-QIP-6.1, R6, MOD 0	Pg. 16 Pgs. 16-18 Pgs. 19-19A			SAT SAT SAT	SAT SAT SAT	SAT
12.0	YMP-12.3Q, R0, ICN 1	Pgs. 20-29			SAT	SAT	SAT
15.0	YAP-15.1Q, R5, ICN 0	Pg. 30			SAT	SAT	SAT
16.0	AP-16.1Q, R4, ICN 1	Pg. 31-33			SAT	SAT	SAT
17.0	AP-17.1Q, R1, ICN 2	Pgs. 34-37			SAT	SAT	SAT
SUPP I	AP-SI.1Q, R2, ICN 4	Pgs. 38-49			SAT	SAT	SAT
SUPP II	YMP-LBNL-QIP-SII.0, R1	Pgs. 50-60			SAT	SAT	SAT
SUPP III	AP-SIII.1Q, R0, ICN 1 AP-SIII.1Q, R1 AP-SIII.3Q, R0, ICN 3	Pgs. 61-64 Pgs. 61-64 Pgs. 65-67			SAT SAT SAT	SAT SAT SAT	SAT
SUPP V	AP-SV.1Q, R0, ICN 2	Pgs. 68-69			SAT	SAT	SAT
APP. C	AP-AC.1Q, R0, ICN 0	Pgs. 70-72			SAT	N/I	SAT
TOTAL	PAGES = 72		NONE	NONE	SATISFACTORY		

Legend:

NI Not Implemented
SAT Satisfactory